

## REMARKS

The Examiner is thanked for the careful examination of this application. In view of the foregoing amendments and the following remarks, reconsideration of the claims is respectfully requested.

The subject matter here pertains to a system for fastening a replaceable barrel onto a rifle, the system comprising a lock frame having an opening into which a barrel socket can be pushed into position and locked with bolting device, wherein the bolting device comprises a barrel block stop provided within the lock frame and a groove in the socket of the barrel, into which groove the barrel block stop is inserted when the barrel is clamped into locked position. A screw is provided for clamping the socket of the barrel in the lock frame against the barrel block stop.

The specification and claims are amended to change the phrase "consisting of" to "comprising." The "consisting of" terminology resulted from an inaccuracy in the translation of the Finnish application upon which this application is based. Such an amendment is supported by the claims as originally filed. For example, Claim 1 originally provided a system consisting of a lock frame. Claim 3 then provided for the lock frame comprising a spring-loaded support plate. Thus, Claim 3 provides the open terminology "comprising." For this reason, amending Claim 1 to include the open terminology "comprising" is consistent with the language of Claim 3 as originally filed.

### Claim Objections

Claim 5 is amended to replace the phrase "the support plate" with the phrase "a support plate." Withdrawal of the objection to this claim is respectfully requested.

**Rejections Under 35 U.S.C. § 112**

Claim 4 is rejected under the second paragraph of 35 U.S.C. § 112 because of the language "at a small angle." Claim 4 is amended to remove the word "small." Accordingly, withdrawal of this rejection is respectfully requested. Additionally, new Claim 6 is added, which depends from Claim 4, providing that the angle is about five degrees or less. This claim is based at least on originally filed Figs. 1 and 4.

**Rejections Under 35 U.S.C. § 102**

Claims 1 and 4 are rejected under 35 U.S.C. § 102(b) as being anticipated by North (U.S. Patent No. 1,363,262). North discloses a rifle or machine gun having a detachable barrel *B*. The barrel *B* is attached to the body *A* of the gun or rifle by way of tooth *b'* on the barrel *B* which is fitted into a recess *a'* on the body *A*. The barrel *B* is further fixed to the body *A* by a locking device *C* and gas cylinder *D'* in conjunction with gas vent ring *D*. The locking device *C* is engaged in a part-cylindrical cutout *b*<sup>3</sup> on the lower side of the breech. To detach the barrel *B* from the body *A*, the locking device is rotated in a first direction until a recess *C<sup>x</sup>* of the locking device *C* lines up with the gas cylinder *D'*. The gas cylinder *D'* can then be moved backwards and released from the gas vent ring *D*, as shown from Fig. 1 to Fig. 2. In this position, the barrel *B* can be angled upward and the tooth *b'* disengages from the recess *a'*, thus allowing the barrel to be detached.

In rejecting Claim 1, the Official Action takes the position the barrel *B* and the body *A* of North correspond to the barrel and lock frame as claimed. Additionally, the Official Action identifies the recess *b* in the breech and recess *a'* in the body *A*

as corresponding to the claimed groove and barrel block stop, respectively, as claimed.

Amended Claim 1 provides, *inter alia*, that a screw is provided for clamping the socket of the barrel in the lock frame against the barrel block stop. North fails to disclose this feature together with the other features recited in Claim 1. In North, the breech of the barrel *B* is held in place on its lower end by the locking device *C*. Such an arrangement requires precise manufacturing so that the parts may fit together. In addition, locking device *C* is not a screw, nor does the locking device *C* clamp the breech end in the body *A* against the recess *a'*. In contrast, Claim 1 provides a screw for clamping the socket of the barrel in the lock frame against the barrel block stop. Thus, the claimed arrangement can be tightened, e.g., by rotating the screw, during the lifetime of the product. Because North does not disclose the screw for clamping the breech of the barrel *B* in the body *A* against the recess *a'*, the anticipatory rejection is not supported. Accordingly, withdrawal of this rejection is respectfully requested.

#### **Rejections Under 35 U.S.C. § 103**

Claims 2, 3 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over North in view of Rieger (U.S. Patent No. 4,729,186). Rieger discloses a firearm having a barrel hold for interchangeable barrels. The firearm includes a breechblock housing 1 which has a recess 18. A tubular member 10 includes a first extension 12, at a rear end, which is received in the recess 18. The tubular member 10 further includes a second extension 13 at a front end. The

second extension includes a lock recess 23 which receives a lock bolt 24 urged by a spring 25.

Claim 2 provides that the barrel block stop is separate tempered arcuate claw, which is fastened within the lock frame and whose arcuate portion settles in a groove in the barrel socket in locked position. The Official Action correctly recognizes that North fails to disclose this arrangement as claimed. However, the Official Action concludes that such a feature would have been obvious to implement in North because the criticality of such a feature has not been found. This rejection is respectfully traversed.

A lock frame is one of the more difficult components to manufacture in bolt action rifles of the type described in this application. Forming the barrel block stop as a separate claw allows for the barrel block stop to be tempered, while still maintaining the material properties of the rest of the lock frame. There is no disclosure in either North or Rieger that the lock frame and barrel block stop should be formed in such a manner that they have different properties. Thus, a person having ordinary skill in the art would not have sought to modify either reference in such a manner. For at least this reason, withdrawal of this rejection is requested.

Amended Claim 3 recites that on a side of the lock frame opposite the barrel block stop, the lock frame comprises a spring-loaded support plate, under which support plate the screw is provided, which is tightened from the underside of the gun for clamping the socket of the barrel in the lock frame upwardly against the barrel block stop. The combination of North and Rieger fails to disclose this arrangement.

In rejecting Claim 3, the Official Action correctly recognizes that North fails to disclose a spring-loaded support plate under which a clamping device is provided.

The Official Action relied on the disclosure of Rieger in an attempt to cure this deficiency. The Official Action interprets the spring 25 and lock bolt 24 of Rieger to correspond to the claimed spring-loaded support plate under which a clamping device is supported and concludes that it would have been obvious to an ordinarily skilled artisan to combine the disclosure of Rieger with that of North in order to ensure that the lock bolt is automatically biased during pivoting of the barrel.

As noted above, amended Claim 3 now provides that the screw is provided under the spring-loaded support plate, and the screw is tightened from the underside of the gun for clamping socket of the barrel in the lock frame upwardly against the barrel block stop. Rieger fails to disclose the screw as claimed, as the lock bolt 24 of Rieger is not a screw. Additionally, the lock bolt 24 is Rieger is not positioned in manner that it is under the spring 25, nor is the lock bolt 24 capable of being tightened from the underside of the gun. Rather, Rieger's lock bolt 24 is urged in a longitudinal direction from the front of the gun.

Moreover, the lock bolt 24 and spring 25 of Rieger do not clamp a socket of a barrel upwardly against a barrel block stop as claimed. Indeed, the Official Action fails to address such a feature. In Rieger, the lock bolt 24 is urged in a longitudinal direction against second extension 13. To the extent second extension 13 may be considered a socket of the barrel, the lock bolt 24 does not clamp the second extension upwardly, let alone, upwardly against a barrel block stop. Because the combination of North and Rieger fails to disclose each feature as recited in Claim 3, withdrawal of this rejection is respectfully requested.

Claim 5 provides that an underside of the socket, which bears against a support plate, has a plane surface so that the barrel settles at the correct angle around its axis during installation and clamping.

In rejecting Claim 5, the Official Action identifies Fig. 4 of North as disclosing a plane surface. The Official Action correctly notes that North fails to disclose a barrel socket to bear against a support plate. Attempting to cure this deficiency, the Official Action relies on the disclosure of Rieger. The Official Action interprets Rieger as disclosing a lock bolt 24 which clamps a second extension 13 in a secure position against a locking frame 3. However, the Official Action does not address a support plate. Indeed, Rieger does not disclose a support plate. Thus, the obviousness rejection is not supported as Rieger does not cure the deficient disclosure of North in this regard. Accordingly, withdrawal of this rejection is respectfully requested.

New Claim 6 is added for consideration as discussed. Support for this claim can be found at least in Figs. 1 and 4 of the application as originally filed.

New Claim 7 provides that the barrel block stop defines one extent of the headspace in the barrel. Headspace refers to the fit of a cartridge in a chamber, and is measured as the distance from breech face to the part of the chamber which stops the case's forward movement. Thus, insufficient headspace hinders complete chambering, while excessive headspace permits case stretching or head separation, which can be dangerous. An ordinarily skilled artisan would recognize that the barrel block stop as recited also acts to construct a headspace. In North, the headspace is formed at the end of breech, and is not defined by the any portion of the body A. For at least this reason, Claim 7 is allowable.

New Claims 8 and 9 are presented for consideration as well. These claims further distinguish the relative positions of the claimed elements. Support for these claims is found, for example, in Figs. 4 and 5. No new matter is added.

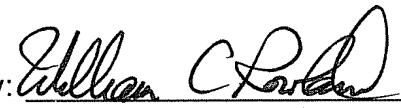
**Conclusion**

In the event that there are any questions concerning this Amendment, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

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